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ABSTRACT

Writing students at two-year colleges need more time and training to become better writers and computer users. Changes in writing instruction should expand students' knowledge of the writing process and increase their computer literacy; doing so should also increase their employability. The commitment of Oklahoma State University--Okmulgee to computer literacy has allowed the communications faculty in the General Education Department to require computer-generated writing assignments in Freshman Composition I and II classes as well as Technical Writing I and II classes. The efficiency of computers in promoting the writing process has been debated widely with reactions varying from hearty approval to damning disapproval. Perhaps the best support for competency-based education (CBE) comes from the workplace. Multimedia environments, if done properly, are worthwhile and valuable teaching tools. In the area of distance education, however, curriculum developers and instructors need to consider the educational level and learning skills of students involved. For the students' sake, writing instruction should also continue to include large amounts of teacher/student interaction in the computer classroom. One of the major objectives of teaching writing should be to teach students writing skills which will help them become better employees. Writing teachers who use computers must also teach a basic level of computer word-processing skills. Instructors should use mini-lectures which will leave them free to roam the room to help students as needed. (Contains 29 references.) (RS)

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ED 416 482

Writing and Computer Skills:

Students Need More Time!

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A longer version of this paper was presented to the Chair of the General Education Department and the Communications Supervisor, in August 1997, in an attempt to gain more computer laboratory time for a writing class which, at the time, was called "Basic Composition."

With the increasing number of personal computers on the market and the increasing widespread use of them as word processors, it is somewhat surprising that educators should still be debating the use of them in the writing classroom. Perhaps their ancestors opposed the use of typewriters at an earlier point in history? In contrast, some educators, of course, are overzealous in their laudatory praise of the machines while others are equally adamant about their supposed near-Satanic qualities. The position which may be compromising for both viewpoints, of course, lies somewhere in the middle. Computers have been shown to be effective in assisting writers in a variety of situations. Equally important, they have also been shown to confuse and frustrate writers.

However, they do not appear to be a passing fancy, and teachers should become accustomed to the idea of using them in the writing classroom. Computer use is already widely documented. As a result, this paper seeks to explain why writing students at two-year colleges need more time and training in order to become better writers and better computer users.

BACKGROUND INFORMATION

Enthusiasm for any learning theory or pedagogy should be tempered with the reality of a school's mission and its structure as an educational institution, the academic caliber of the student body, financial and support resources available and, certainly, the needs of the student body. The students discussed in this report attend a technical two-year college whose stated mission is "to serve as the lead institution. . . for comprehensive, high-quality, advancing technology programs and services to prepare and sustain a diverse student body as competitive members of a world-class work force and contributing members of society" (Oklahoma State, 1996, p. iii).

Fulfilling that mission requires the school to produce a well-trained professional who will be able to maintain a high level of technical proficiency after graduation. In order to produce competent graduates, changes in writing instruction should expand

students' knowledge of the writing process and increase their computer literacy; doing so should also increase their employability by giving them salable skills allowing them to successfully compete against graduates from other technical schools.

The commitment of Oklahoma State University-Okmulgee to computer literacy has allowed the Communications faculty in the General Education Department to require computer-generated writing assignments in Freshman Composition I and II classes as well as Technical Writing I and II classes; computers are used on a regular basis for instruction and typically meet at least once a week in the computer classroom. When space and time are available, due to scheduling, they often meet every day in the computer classroom. However, with instructional delivery changes in the technical departments, particularly concerning internship programs and 8-week classes, changes in instructional delivery in the writing classroom must make further changes. It is no longer enough to give computer use a glancing blow as a part of the writing coursework; computer use is needed every day so students can develop both writing and computer skills.

To meet the desire for a change in treatment in one class, Basic Composition, students were also introduced to the computer lab--something which until Fall 1994 had not been done. They were introduced to a simple word-processing software (QuickStart), given an assignment, and then received instruction on the basic commands needed to navigate the program. The initial transformation was unbelievable. Students who had been somewhat belligerent about being in an "English" class were now asking questions about writing more often on the computer. Going to the computer room for the first time was the beginning of what was to become the most significant change in Basic Composition. No longer was it just a "dummy" course for students who wanted to slide through 3 credit hours of English.

From the initial changes, the class evollved into an introduction to technical writing principles, teaching basic computer skills, and offering writing assignments

which came from students' suggestions rather than from the teacher. The success of the changes briefly mentioned here has caused the objectives of the class to change, resulting in the change from "Basic Composition" to "Technical Writing I." Since that time, relevant writing assignments for technical students have become the basis for teaching basic technical writing skills as well as basic computer skills

ROLE OF THE COMPUTER

Using computers to teach writing skills has been documented widely since they were first used to supplement writing instruction. The efficiency of computers in promoting the writing process, however, has been debated widely with reactions varying from hearty approval to damning disapproval. In researching the use of computers at other educational institutions, a debate seems to still be in progress over whether they belong in the writing classroom at all. Given the commitment of some schools and their administrations to computer usage, this seems a surprise. However, Resnick & Strasma (1996) note that "less than one-third of all community colleges in Illinois are currently linked by a LAN or a WAN" (p. 211). Given that context, and in order to fully appreciate what computer usage involves, it is necessary to look at the issue from differing perspectives.

The Case For Computer Use

Computer use by the writing instructors at OSU-Okmulgee began in earnest during the academic year 1991-1992; students were introduced to the first "Writing Studio" and required to produce their writing assignments on word-processing software. Priority for use of the Writing Studio was given to Freshman Composition I students, but later spread to Freshman Composition II and Technical Writing students. Students in lower level writing classes (such as the basic writing class or zero-level classes) rarely used the computers. Since that time, however, students in *all* the writing classes,

including the zero-level classes, have been required to do more and more of their writing on computers and the number of computer labs in the department has grown from one to three.

With many students, there is often an initial resistance to learning how to use a computer. However, in most cases, by the end of the trimester, students have become accustomed to word-processing and are much more comfortable using computers. Although students can become comfortable with computers, some dread them; Griswold (1994) addresses the issue of dealing with a "technophobe--the student of technical writing who fears writing with a computer" (p. 500). His strategy is to require computer use for assignments he has devised for that very purpose. He further states that when students try to beg off, he counters with the argument that writing on the computer is a relevant workplace skill and should be viewed as such (p. 501).

Posey (1994) approaches computer usage from another perspective and asserts that "developing writers should have the opportunity to use computers in the same ways as other college writers" (p. 231). Her argument is that basic writers are too often confined to drill-and-practice software and should be allowed to develop more sophisticated computer skills. Supporting higher level computer skills is also the finding by Zimmerman & Long (1993) who surveyed professional technical writers and found "that 95% of the respondents [technical writers] used computers daily and that 45% used computers more than 35 hours a week" (p. 304). While these writers were *professionals*, it is not a stretch of the imagination to say that most two-year schools wish to produce trained professionals who need more than technical and mechanical skills to excel in the workplace.

Support for acquiring more than technical and mechanical skills is provided by Gerson & Gerson (1994) who assert students should possess skills which set them apart from other students who have similar technical skills. Given the importance most employers place on communications skills, it follows that writing classes which require

computer skills could teach students the communications skills which would set them apart from other schools' technical students.

The Case Against Computer Use

Although some schools have committed to computer use in the writing classroom, there are other schools and teachers who do not believe that computer use is beneficial. While their views are certainly relevant, they also support those teachers who believe that writing students need more class time to interact with those computers.

Citing ten articles in Computers and Composition, Crafton (1996), for instance, notes that "4 of 10 articles making up . . . [the December 1994] edition" show that computers are not a cure-all for teaching writing students (p. 318). This attitude is in contrast to some educators who believe that students placed in front of computers will automatically equal results. Crafton and the articles he reviewed [Chandler, 1994; Sharples, 1994; van der Geest & Remmers, 1994; Dowling, 1994] show an unexpected backlash towards computer use. In fact, Crafton's assessment of using computers in the writing classroom is quite blunt and critical:

> use of computers by students who possess no more than rudimentary writing and computer skills may be ill advised. In this case, computers may distract students from the task at hand or even prevent them from developing a fuller appreciation of the complexities of the act of written communication. (p. 323)

Smith (1996) goes one step further, calling computer-assisted writing an "adolescent pedagogy" whose limitations include "time. . . . compatibility [of software]. . . .[and a] variation in computer skills" possessed by students. In addition, he believes that requiring writing students to produce their writing on computers is "counterintuitive" (p. 168).

McDonald (1996) echoes this sentiment and states that "the instructional challenges created by students who have poor writing skills are further intensified and

complicated by increasing demands to modify curriculum for distance education." Taking a somewhat different perspective is Tebeaux (1988) who questions "whether we should be teaching word processing . . . particularly when we consider other major topics we need to cover." She goes on to state that computers have, indeed, become "an integral part of communication" but the focus should be showing students how the "technology affects generating communications and how this technology creates new problems for the communicator" (pp. 54-55).

All of the writers quoted have sound arguments against using computers in the classroom. However, the answer or solution to those arguments may be to spend more time in the computer classroom becoming computer literate. Computer technology has become so widespread that it should no longer be treated as a novel idea, a passing fancy, or an "adolescent pedagogy." One of the common threads in many articles is the time needed for students to achieve not only better language skills but also better computer skills. This time becomes very important when discussed in conjunction with schools who attempt to use a competency-based curriculum for their technical and vocational students.

Computer Use at OSU-Okmulgee

Since the beginning of academic year 1991-1992, writers in Freshman Composition I have been required to use word-processors to type their essays. Initially, the freshman composition classes were given priority when scheduling on-screen time. Since then, however, computer use has spread to the zero-level remedial courses, both Freshman Composition I and II as well as Technical Writing I and II. There are currently three computer labs in the Communications Department; one is used primarily for remedial reading and zero-level English, while the other two are used primarily for the other four writing classes. There is, however, the flexibilty to trade computer rooms and revise schedules as the need arises.

In my Freshman Composition I classes, I require 3 essays--all of which must be typed. In addition to the essays, there are prewriting exercises, planning exercises, online revising and editing, and essay analyses. All of these assignments are designed to help students generate ideas, plan their writing, and then analyze what they have done. Stressing that they are in control of their writing, all the work we do has the same goal: make students better writers. Journal entries for my Comp I class are done on the computer; doing so assures that they will not only be readable, but that students will be gaining computer skills by generating a non-threatening assignment. All of the journal entries deal with the current essay assignment. Students save everything to two diskettes; the teacher retains one, the student the other.

By the time students reach my Freshman Composition II class, all of their assignments must be typed, but are rarely worked on in the computer classroom. The writing assignments, which include cause and effect, argument, comparison and contrast, a research paper proposal and a research paper are all done outside of class; doing so allows more time to work on MLA documentation and also allows more time for peer reviews. Another aspect of computerized instruction is the use of the Internet and the WorldWideWeb for references. Because of the limited number of volumes in our library, the Internet has been a lifesaver when it comes to finding references on somewhat obscure research topics. In fact, use of the Internet allows students to write papers on such diverse topics as tattoos, serotonin-related drugs, Attention Deficit Disorder, and the phobia of clowns.

COMPETENCY-BASED INSTRUCTION AND COMPUTERS

Even before writing skills or computer competencies can be discussed, according to Ames (1996), students need "foundation skills" on which to build. These skills include: basic skills (reading, writing, arithmetic and mathematics, speaking, and listening), thinking skills (thinking creatively, making decisions, solving problems,

seeing things in the mind's eye, know how to learn, and reasoning), and personal qualities (individual responsibility, self-esteem, sociability, self-management, and integrity) (p. 6).

From the list of skills presented, it appears that the role of writing instructors in many community college writing courses is to help students obtain those basic skills upon which students may base their technical competence; one of those basic skills is computer literacy. Competencies which are to be mastered require time; expecting to turn out a super-writer who is also computer literate in 15 or 16 weeks is no more realistic than turning out a super-technician/tradesman in the same length of time. Students need time to learn computer skills *and* writing skills.

The Case For Competency-Based Education

Since many two-year schools are technical schools or have technical programs, and since there are multiple corporate sponsors involved in advising technical departments about curriculum decisions, it makes sense that these same sponsors want competent technicians. It would be difficult to convince teachers in the technical areas that they are not using competency-based education (CBE); wanting to produce competent graduates is the goal of any school (Finch & Crunkilton, 1989, p. 242).

Perhaps the best support for CBE comes from the workplace. The Ohio Competency Analysis Profile (Ohio State, 1992) presents a "core communications list [which] applies to forty-nine occupational areas" (p. 2). The four communications areas listed are reading, writing, listening, and speaking. Another employer-labor discussion of competencies comes from the Illinois State Council on Vocational Education (ICoVE). Two of the first actions participants of the ICoVE requested were (1) providing "remedial education in basic academics at the elementary level until students demonstrate mastery" and, (2) requiring "strong academic achievement of vocational students for graduation" (1991, p. 7). In addition, ICoVE participants listed "nine basic skills" they saw as

important. Among those nine, keyboarding and computer literacy skills (p. 9) were listed as necessary skills involved in the writing classroom.

Since many two-year schools have numerous industry partnerships involved in technical programs, it seems a logical extension that students' competencies should extend to the writing classroom. An important point made by ICoVe was that "concepts and skills related to computers and technology are no longer unique to specific occupations" and, therefore, are necessary for most occupations (p. 10). With this in mind, additional time on computers should no longer be a luxury or an add-on activity, but an integral part of competency-based instruction for the writing classroom.

The Case Against Competency-Based Education

While CBE is certainly desirable in producing qualified technicians, there are pitfalls which must be avoided and some pitfalls which cannot be avoided. One pitfall is the rush to create multimedia environments which, if done properly, are worthwhile and valuable teaching tools. In the area of distance education, however, curriculum developers and instructors need to consider the educational level and learning skills of students involved. Many educational institutions have developed telecourses and many actively promote distance education through Internet connections. However, it may not be desirable for all levels of students, particularly students who often populate two-year schools.

In fact, the isolation of watching a telecourse or sitting alone at a computer, in some cases, destroys the interactivity which writing students may need in order to make sense of their own writing (Swiencicki, 1996, p. 181). Adding to the argument against telecourses, Swiencicki argues that telecourses can often "disenfrancise" students who are already at-risk. She goes on to state that "technologically innovative pedagogies are productive only if they *enable the growth of the student as a critical thinker*" (p. 183,

emphasis in original). And critical thinking cannot be developed without sufficient interaction between instructor and student and between students.

In addition, creating a stand-alone assignment to be completed on computers or television would be difficult for lower level students since many of them have few computer skills, if any at all. In addition to dealing with students who may not be capable of dealing with such individualized instruction,

> [i]t is imperative to remember that the use of instructional technology does not automatically lead to individualization or CBE. Technology must be employed truly to aid students in the development of competence. *If technology is used indiscriminantly, the result will be far worse than not using it at all* (Finch & Crunkilton, 1989, p. 248; italics added).

A review of the overall ACT scores for students discussed in this paper revealed that the majority of the students enrolled in the lower level writing classes were not prepared to function on their own because of below average scores. Yet another argument against CBE is that it stems not from education, but other areas:

> the competency movement is less concerned with such complex, problematic issues (individual, social, economic and environmental concerns) than it is with a technology of specific knowledge and application. . . . It is important to recognise (sic) that the cult of competency in its current form (as in previous incarnations) is not an educational or professional movement, but a *managerial* movement resulting from industrial and economic panic. . . . And it is also worth noting that the declared purpose is increased efficiency and increased articulation between differing sectors of society: economy, industry, education and the professions. (Bates, 1992, pp. 3-4)

While few would argue the merits of "increased efficiency and increased articulation," there should not be a headlong rush to implement instructional strategies which may not be productive for writing students who may not be prepared to function independently.

Probably the most powerful argument against any change in curriculum is money. How much would have to be spent to develop computer software, multimedia presentations, telecourses, and Internet courses? The cost of new computers, software for developing programs and presentations, and equipment for projecting those presentations amounts to a major commitment of funds when, most often, there are often not funds or personnel available at many schools to maintain current equipment. From that perspective, "instructional support, then, can become a major problem when one decides to establish individualized, competency-based instruction. This in terms of both financial and logistical support" (Finch & Crunkilton, 1989, p. 258).

TEACHING STRATEGIES AND ISSUES

Can Students be Self-Directed Learners?

One of the advantages of teaching in a computer classroom is that students who are capable of being self-directed can work at their own pace without being slowed down by others who are less capable; in contrast; those capable students who may work at a slower pace do not have to feel rushed. One frequent problem experienced in a computer classroom, however, is that many times the students who need to be asking questions do not. This problem is compounded if several students "don't get it" and fail to ask pertinent questions about the coursework.

Teachers and administrators who turn to computers as a cure-all need only review available literature which points out problems with using computers in the writing classroom. Using a remote presentation of material may be useful in some circumstances, but in others it may only serve to confuse or frustrate students. Unmonitored instruction may, in fact, be just the opposite of what many learners need.

In some cases, students want explicit instruction rather than a loosely organized program of study presented by a facilitator. Brookfield (1992) sums this up by reporting that

> learners often complain that facilitators are abdicating their educational role by placing on learners the responsibility for making judgments about content and direction that they are not equipped to make. Instead of welcoming gleefully the lack of constraints represented by educators abandoning pre-defined curricula, learners frequently feel that they are swimming around in an ocean of ambiguity. (p. 13)

Garrison (1992) goes one step further and asserts that "for whatever reason, it is certainly not appropriate to demand that the learner act in an independent manner. . . . A totally unstructured environment provides little information and feedback regarding learning activities" (p. 143).

Based on the assertions of Brookfield and Garrison, and taking into account the skill levels of students who regularly enroll in lower level writing classes, it should not be assumed that students will automatically become self-directed learners. Explicit instruction and constant interaction should be the norm. For the students' sake, writing instruction should also continue to include large amounts of teacher/student interaction in the classroom and especially in the computer classroom.

Computer technology and distance education both make offering distance education instruction very tempting. However, at this point in students' education, it may not be advisable since they are learning not only writing skills but computer skills as well. Research on distance education, as discussed by Swiencicki (1996), contends

> telecourses tacitly suggest that students already have advanced study skills, self-discipline, and a facility for new discourses, but they are most widely used in the lowest level courses, like introductory composition, by students who for the most part are in the process of developing the basic skills needed to thrive in this kind of isolated learning structure. (180-181)

If some writing students are at-risk as their placement scores often suggest, then it would better serve students' needs to continue the learning process in a more traditional manner.

However, changes in instructional delivery can promote higher level writing, communication and computer skills.

Teaching Writing Skills

Many two-year schools teach technical skills as a part of their mission; however, what technical students may be missing is a sound foundation of writing skills which will help them not just be successful, but excel in their chosen professions. Gerson & Gerson (1994) go further and contend

> the successful job candidate must provide more than degree-program expertise. That's where problem solving, teamwork, and communication skills become important differentiating characteristics. . . . Corporations also need employees with decision making skill, thinking and planning abilities, and project management talents. Effective writing requires each of the above. (198, 201)

Therefore, one of the major objectives of teaching writing should be to teach students writing skills which will help them become better employees.

Writing skills needed by students in the workplace vary from one occupation to the next. However, there are sufficient similarities in "the basics" to draw up a list of minimum activities. Ohio State University (1992) and the Illinois Council on Vocational Education (1991) have both published results of studies outlining what is deemed necessary for potential employees in the workplace. The first writing competency listed in the Ohio Competency Analysis Profile is *word processing skills* (Ohio State, 1992, p. 5); the same computer skills are listed as seventh in a survey of business and labor done

by the Illinois Council on Vocational Education and "writing" is part of the number one skill listed in the same survey (1991, p. 9).

Teaching writing skills to technical students often calls for writing assignments which create interest and are relevant; in devising relevant assignments, several options are available. Radloff (1979) suggests using "professional journals in the students' field, textbooks from the students' field, and examples from the appropriate industry or profession, along with a number of handouts that cover fundamentals that aren't easily gleaned from the above examples" (as cited in Gearhart, 1992, p. 362). Other writers and researchers have similar ideas; as a result, many of the assignments discussed in journal articles and conference papers contain many similar principles. The most commonly mentioned skills are summarized by Zimmerman & Long (1993):

- Problem-solving skills
- Audience analysis
- Components of the writing process
- Word-processing skills
- Communications which involve adapting
- Communications with professionals (pp. 307-308)

Of the skills listed above, the most commonly discussed in articles and textbooks is problem-solving (e.g., Tebeaux, 1988; Parker, 1990; Kennedy & Montgomery, 1993; Zimmerman & Long, 1993; Gerson & Gerson, 1994; Fox, 1994; Anderson, 1995; Mehlich & Smith-Worthington, 1997).

Writing is a Problem for Students

When we speak of problem solving as writing teachers, we often have a specific assignment in mind. However, Gerson & Gerson (1994) believe

> *writing is a problem for our students*. Writing effectively requires that our students recognize the problems, understand the problems, and then solve these problems. We do our students a service by having them write because, in doing so, we teach them problem-solving techniques. (p. 200, emphasis added)

However, no matter how effectively we plan or how hard we try to motivate students, there will probably always be a certain percentage who will not attend class, or if they do, will participate only marginally in the hopes of just getting by. Many students do not come into two-year schools with adequate writing skills. And, even if they have been through a remedial class, their attitude towards writing is one of being punished, rather than that of acquiring an additional skill which could help them later in their careers.

Despite all the benefits of using competencies and tailoring assignments for relevance, student capabilities must not be overlooked. One of the major problems in teaching writing at the two-year college level is dealing with students who see writing as a problem because they are deficient in writing and language skills. While dealing with the deficiency is, for the most part, the responsibility of the instructor and the quality of instructional materials provided for students, part of the responsibility has to lie with the students. If students are lacking basic language skills, more time has to be spent on explanations; more time has to be spent on "the basics," which include word processing skills.

Teaching Computer Skills

Whether anyone wants to admit it or not, writing teachers who use computers must also teach a basic level of computer word-processing skills. In order to do this, teachers need more contact hours with students. Students cannot achieve mastery of

writing skills without adequate preparation; likewise, mastery of computer skills also requires time. One of the factors that drives this need is the number of nontraditional students on two-year college campuses. Students of all ages populate writing classes and many of those have never used a computer, much less used one to write with. Their frustration at not being able to quickly master computer skills often adversely affects their ability to complete writing assignments.

If those same students are just "turned loose" and expected to learn computer skills on their own, they most likely will become *very* frustrated with an unfamiliar technology. Knowles (1990) states that "when adults are exposed to a situation in which they are expected to take responsibility for their learning, they typically react with confusion, resentment, and resistance" (p. 123). Dealing with students who do not have computer literacy means frustration is a given. Learning unfamiliar technology when there is no background for it is a time-consuming and sometimes painful process for older students.

However, to say that writing students do not need computer skills would be ignoring the obvious. In the space of ten years, dramatic changes have taken place in computer technology which cannot be ignored. Ten years from now, students may need computer skills not currently being taught on some college campuses. How much further behind will these students be if colleges fail to teach them basic word processing skills or fail to familiarize them with computers now?

Teaching basic computer skills is already a part of the required coursework in writing classes on many campuses. For a writing class, students only need to be taught those basic skills associated with word-processing: creating and saving files, prewriting, writing and revising (including the copy/cut/paste process) on-screen. All that takes time. Crafton (1994) warns, however, that basic writers do not immediately benefit from the use of computers In fact, he states:

> We see the computer as a 'labor-saving' device that facilitates the [writing and teaching] process, when, in fact, it actually complicates matters; students still need time and experience to develop linguistic sophistication, maybe more time and more experience if computer use is added to the instruction. (323)

One issue often overlooked by some educators is whether or not students can be trusted to do their own work. In the rush to computerize instruction, we also need to take a close look at our students' abilities and ethics and determine whether or not we want an unstructured environment for producing something as important as good communication skills. Other writers have already documented how computers affect the writing classroom. What they haven't always discussed is student attitudes towards their grades and the ethics involved in getting those grades. One writer, however, addresses the issue of "surrogate writers" and discusses how "cheating is minimized. . . in the computer classroom" (McDonald, 1996). She then outlines a rather elaborate method used to eliminate the possibility of such cheating.

Discussions with teachers from technical departments and evidence from my own classes show that students who feel they are unable to produce a quality piece of writing sometimes plagiarize information. While not wanting to point fingers, many students fall back on the excuse "I used to do this in high school all the time." The same attitude has come from teachers in the technical departments. Paraphrasing, these teachers have told me: "I've got enough to do just keeping these kids on the right track. I figured they had copied the material, but I'm not really comfortable with English myself and I don't have the time to teach writing principles." Discussing such issues points out that students, given free rein, will find a way to beat the system and avoid learning what they really need to know.

With a competency-based system some safeguards need to be taken. Creating a competency-based system for writing classes will require more attention to students, not less. If students are to truly learn in an interactive environment which encourages

learning, they will need consistent interaction with the teacher in a computerized writing environment. In fact, Ames (1996) argues that when competencies are involved, "the interaction between the teacher and student is now a more pivotal one" because of the classwork which is preparing the student for employment (p. 7).

Interaction Between Instructor and Students

Although much attention is given to interactive instructional technologies, what is often meant is students interacting singly with a computer. While students taking responsibility for their own learning is a noble goal, "self-direction in learning does *not* mean learning alone or in isolation; it usually takes place in association with various kinds of helpers, such as teachers, tutors, mentors, resource people, and peers" (Knowles, 1990, p. 135, emphasis in original). Interactive computer technology may not be a workable pedagogy for some students. They may, indeed, need contact with a teacher or facilitator who can act as a resource person or answer questions.

However, since the traditional lecture method is not desirable in a computerized setting, teachers need to allow their students to progressively become more independent. Therefore, in a computerized writing classroom, "teachers who strive for interaction learn to limit one-way exchanges of information. They rarely lecture for more than thirty minutes at a time, but rather intersperse mini-lectures" as needed (Killingsworth & Rude, 1988, p. 15). Minimal lecturing is possible if the assignment has been previously discussed and students have been given time to prepare for writing in the computer classroom. Currently, this strategy is already at work in most writing classes at OSU-Okmulgee and works very well. There are no lengthy lectures in the computer classroom, leaving the instructor to roam the room and help students on an as-needed basis. The goal, of course, is to assist students in taking responsibility for their own learning as well as the responsibility for actually completing the assignments.

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CONCLUSION

In order to meet the needs of students enrolled in writing classes, two-year colleges need to create more dedicated time and more dedicated work space in order to maximize student learning efficiency. Students cannot achieve writing and computer competence without sufficient opportunity to practice. Proponents of computer use and competency-based instruction need to look at writing skills and computer literacy skills as if they were another technical skill being required in the work force--and they are. Rather than debating whether or not we should use computers in the classroom, perhaps we should focus on how much computer time we can give students so writing skills and computer literacy skills will set them apart from other graduates.

Computer use is necessary in training students at two-year colleges. Furthermore, students need more, not less, interaction with instructors. In addition, students need more time in order to achieve competent levels of computer literacy skills in combination with competent writing skills. When the two areas of instruction are combined into one class (a computerized writing classroom) more instruction is needed to help students develop basic word processing skills while, at the same time, trying to improve their writing skills.

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